

CLAIMS

What is claimed is:

- 5 1. A method of identifying an agent that alters the activity of hypothalamic inhibitory factor (HIF), comprising:
- a) contacting a molecule in a biosynthetic pathway for HIF with an agent to be assessed; and
- b) determining the activity of the molecule in the presence of the agent;
- 10 wherein, if the agent alters the activity of the molecule in the presence of the agent compared to the activity of the molecule in the absence of the agent, then the agent alters the activity of HIF.
2. The method of Claim 1, wherein the agent inhibits the activity of the molecule.
- 15 3. The method of Claim 1, wherein the agent enhances the activity of the molecule.
4. The method of Claim 1, wherein the agent is selected from the group consisting of: a peptide, a steroid, and an antibody.
- 20 5. The method of Claim 1, wherein the molecule is selected from the group consisting of: P450 cholesterol side chain cleavage enzyme and Δ^5 -3- β -hydroxysteroid dehydrogenase isomerase.
- 25 6. A method of identifying an agent for treating hypertension, comprising:
- a) contacting a molecule in a biosynthetic pathway for hypothalamic inhibitory factor (HIF) with an agent to be assessed; and
- b) determining the activity of the molecule in the presence of the agent;

wherein, if the agent inhibits the activity of the molecule in the presence of the agent compared to the activity of the molecule in the absence of the agent, then the agent is identified as an agent for treating hypertension.

- 5 7. The method of Claim 6 wherein the agent can be used to treat hypertension selected from the group consisting of: secondary hypertension, salt-sensitive hypertension, volume-expanded hypertension, pregnancy-induced hypertension and essential hypertension
- 10 8. The method of Claim 6, wherein the agent is selected from : a peptide, a steroid, and an antibody.
- 15 9. The method of Claim 6, wherein the molecule is selected from P450 cholesterol side chain cleavage enzyme and $\Delta 5$ -3- β -hydroxysteroid dehydrogenase isomerase.
- 20 10. A method of identifying an agent for treating heart failure, comprising:
 - a) contacting a molecule in a biosynthetic pathway for hypothalamic inhibitory factor (HIF) with an agent to be assessed; and
 - b) determining the activity of the molecule in the presence of the agent; wherein, if the agent enhances the activity of the molecule in the presence of the agent compared to the activity of the molecule in the absence of the agent, then the agent is identified as an agent for treating hypertension.
- 25 11. The method of Claim 10, wherein the agent is selected from the group consisting of: a peptide, a steroid, and an antibody.
- 30 12. The method of Claim 10, wherein the molecule is selected from P450 cholesterol side chain cleavage enzyme and $\Delta 5$ -3- β -hydroxysteroid dehydrogenase isomerase.

13. A method of treating hypertension in an individual, comprising administering to
an individual in need thereof a therapeutically effective amount of an agent that
inhibits a molecule in a biosynthetic pathway for hypothalamic inhibitory factor
(HIF), thereby treating hypertension in the individual.
14. The method of Claim 13 wherein the hypertension is selected from the group
consisting of: secondary hypertension, salt-sensitive hypertension, volume-
expanded hypertension, pregnancy-induced hypertension and human essential
hypertension.
15. The method of Claim 13, wherein the agent is selected from: a peptide, a steroid,
and an antibody.
16. The method of Claim 13, wherein the molecule is selected from the group
consisting of: P450 cholesterol side chain cleavage enzyme and $\Delta 5-3-\beta$ -
hydroxysteroid dehydrogenase isomerase.
17. A method of treating heart failure in an individual, comprising administering to
an individual in need thereof a therapeutically effective amount of an agent that
enhances a molecule in a biosynthetic pathway for hypothalamic inhibitory
factor (HIF), thereby treating heart failure in the individual.
18. The method of Claim 17, wherein the agent is selected from: a peptide, a steroid,
and an antibody.
19. The method of Claim 17, wherein the molecule is selected from P450
cholesterol side chain cleavage enzyme and $\Delta 5-3-\beta$ -hydroxysteroid
dehydrogenase isomerase.

20. A method of monitoring the effectiveness of a treatment of hypertension in an individual, comprising determining the activity of a molecule in a biosynthetic pathway for hypothalamic inhibitory factor (HIF) in an individual that has been treated, wherein if the activity of the molecule is altered and results in inhibition of HIF activity when the treatment is administered to the individual, compared to the activity of the molecule when the treatment is not administered to the individual, then the treatment is effective.
21. The method of Claim 20, wherein the molecule is selected from P450 cholesterol side chain cleavage enzyme and $\Delta 5$ -3- β -hydroxysteroid dehydrogenase isomerase.
22. A method for assessing whether an individual is at risk for developing hypertension, comprising determining the activity of a molecule in a subject's biosynthetic pathway for hypothalamic inhibitory factor (HIF), wherein if the activity of the molecule is altered, thereby enhancing the activity of HIF in the individual, then the individual is at risk for developing hypertension.
23. The method of Claim 22, wherein the molecule is selected from P450 cholesterol side chain cleavage enzyme and $\Delta 5$ -3- β -hydroxysteroid dehydrogenase isomerase.